Your search matched **[0]** of **[766687]** documents.

You may refine your search by editing the current search expression or enterin a new one the text box. Then click search Again.

pecvd and (coat or coating or cover or covering) and interior

Search Again

OR

Use your browser's back button to return to your original search page.

Results:

No documents matched your query.

Your search matched **[0]** of **[766687]** documents.

You may refine your search by editing the current search expression or enterin a new one the text box. Then click search Again.

cvd and (coat or coating or cover or covering) and interior

Search Again

OR

Use your browser's back button to return to your original search page.

Results:

No documents matched your query.

06116068 Genuine Article#: XV790 Number of References: 31
Title: Growth, trapping and abatement of dielectric particles in PECVD systems
Author(s): Raoux S (REPRINT) ; Cheung D; Fodor M; Taylor WN; Fairbairn K
Corporate Source: APPL MAT INC,3225 OAKMEAD VILLAGE DR, M-S 1263/SANTA CLARA//CA/95054 (REPRINT)
Journal: PLASMA SOURCES SCIENCE & TECHNOLOGY, 1997, V6, N3 (AUG), P405-414
ISSN: 0963-0252 Publication date: 19970800
Publisher: IOP PUBLISHING LTD, DIRAC HOUSE, TEMPLE BACK, BRISTOL, ENGLAND BS1 6BE
Language: English Document Type: ARTICLE
Geographic Location: USA
Subfile: CC PHYS--Current Contents, Physical, Chemical & Earth Sciences
Journal Subject Category: PHYSICS, FLUIDS & PLASMAS
Abstract: The growth of solid residues within **PECVD** (plasma enhanced chemical vapour deposition) reactors has been extensively studied because of its implications for wafer particle contamination and is often referred to as dusty plasmas. On dielectric CVD (DCVD) production systems the **coating** of **chamber walls** and vacuum exhaust line with residues addresses also the issue of system maintenance. A common solution consists of periodically cleaning the deposition **chamber** by ionizing a PFC (perfluoro-compound) gas such as CF4, NF3 or C2F6 This generates free fluorine radicals that dry etch the residues deposited on **chamber walls** . However, because of limited fluorine radical lifetime, this clean process is not efficient in the vacuum exhaust line where residues accumulate.

We propose an active solution to address the issue of solid waste treatment on a production DCVD system. We review the particular case of silicon nitride deposition, which is one of the worst known processes in terms of particle generation. These considerations are also valid for silicon **oxide** , silicon oxynitride, silicon carbide and amorphous silicon deposition processes. Here we report on our investigation on the particle formation, composition and morphology within a **PECVD chamber** and the deposition of these particles on **chamber walls** and vacuum exhaust line. We describe a method to design an efficient precipitator that traps the particles immediately downstream of the deposition **chamber** . The trapping uses gravitational and electrostatic means. This system does not necessitate any disposal procedure because of its capability to perform an in situ plasma assisted clean, reactivating the effluent PFC gas from the processing **chamber** . Here, the system is referred to as downstream plasma **apparatus** (DPA).
Identifiers--KeyWord Plus(R): DUST PARTICLES; PLASMAS; DISCHARGES; DEPOSITION; TRANSPORT; CELL
Research Fronts: 95-1881 003 (DUSTY PLASMA; DOWNSHIFTED PEAK IN STIMULATED ELECTROMAGNETIC EMISSION-SPECTRUM; FINITE CHARGING TIME)
95-2029 002 (THERMOPHORETIC TRANSPORT; CU CVD; STREAMWISE CURVATURE; COPPER(II) HEXAFLUOROACETYLACETONATE; AXISYMMETRICAL MOTION)
95-0627 001 (LOW-PRESSURE INDUCTIVELY-COUPLED PLASMA; HELICON WAVE EXCITATION; MODELING OF MICROWAVE DISCHARGES)
Cited References:
PLASMA SOURCES SCI T, 1994, V3
ANDERSON HM, 1990, V67, P3999, J APPL PHYS
BARNES MS, 1992, V68, P313, PHYS REV LETT
BATCHELOR GK, 1985, V107, P21, J COLLOID INTERF SCI
BOUCHOULE A, 1993, V2, P204, PLASMA SOURCES SCI T
BOUCHOULE A, 1994, V3, P293, PLASMA SOURCES SCI T
CHANG M, 1988, V6, P193, SOLID STATE TECHNOL
CHEN FF, 1991, V33, P339, PLASMA PHYS
CHOI SJ, 1994, V22, P138, IEEE T PLASMA SCI
CHOI SJ, 1994, V75, P3351, J APPL PHYS
CHOI SJ, 1994, V3, P418, PLASMA SOURCES SCI T
COLLINS SM, 1996, V14, P634, J VAC SCI TECHNOL A
COONEY JL, 1993, V2, P73, PLASMA SOURCES SCI T
DANIELSON D, 1989, V12, P170, SEMICOND INT